

CHIMAPHILA MACULATA (L.) PURSH
IN MAINE AND NEW HAMPSHIRE

A. R. HODGDON AND LESLEY M. EASTMAN

The Spotted Wintergreen, *Chimaphila maculata* was reported by Seymour (1969) from Lee and Goffstown in New Hampshire and from Rutland and Windham counties in Vermont, those being the only localities given for northern New England. In this article we are discussing several recently discovered stations and citing herbarium records of several others in New Hampshire that have been overlooked.

In northern New England *Chimaphila maculata* tends to occur as disjunct colonies of a few individuals or sometimes single plants, in this respect resembling some species of orchids. Even with careful searching it is usually impossible to find any more plants after having found a few shoots at any one station. While the stems are of low stature and stand but a few inches above the forest floor, the leaves are conspicuous and easy to detect. Thus one can assert with some confidence that the population of Spotted Wintergreen in northern New England is sparse. Not only do there seem to be few colonies but there appear to be few individuals as well. Although the species in our area is scarce it is quite possible that it is considerably more frequent than the few records would indicate.

The recent discovery of it at the base of Mt Agamenticus in York, York County, Maine on October 3, 1971, by the junior author and C. Paul Wight is the first report from the state. The plant was growing in a large rocky depression which was filled with matted beech and maple leaves. It had shown no signs of flowering and on a subsequent visit to the same area in the fall of 1972, the plant had not flowered. Only the one specimen was seen on Mt Agamenticus and in lieu of collecting the solitary specimen, photographs were taken which are on deposit at the herbaria of the University of Maine and the New England Botanical

Club. Several years ago the senior author attended a field excursion of the New England Wild Flower Society at their well known stand of *Rhododendron maximum* in Sanford, York County, Maine. At the end of the tour, one participant reported the presence of Spotted Wintergreen as a limited colony somewhere along the trail into the tract of Rhododendrons. Such a report should be supported by a photograph or an identifiable fragment of a plant but it does seem entirely probable that *Chimaphila maculata* occurs in Sanford. It should be sought farther north even into Oxford County where many species of southern affinity have been found.

More evidence that Spotted Wintergreen is much more frequent than supposed comes from New Hampshire: on October 3, 1972 the senior author and some members of his class in aquatic vascular plants found scattered plants of it in dryish or at least well-drained deciduous woods on the western bank of the Oyster River in Durham, Strafford County, along that part of it known locally as the Mill Pond. Durham has received more botanical attention from the senior author than any other area of similar size anywhere and the *Chimaphila* station is only about a mile from the campus of the University of New Hampshire. It might be argued that the species has invaded the area during the ten or twelve year period since the time when the area was carefully botanized. However, the fact that the plants, though few in number are scattered over a considerable area and indeed occur on both sides of the Oyster River where it empties into the "Mill Pond" suggests that the colony or colonies have been there for some time. Also having seen the Spotted Wintergreen a number of times during the past ten years the senior author had the advantage of experience on his more recent visit to the same area.

A fragment sufficient for identification was collected at the Durham Station, October 3, 1972. *A. R. Hodgdon, L. Loiselle and J. Wicks* 19631. This is deposited in the herbarium of the University of New Hampshire. Earlier

in the summer on August 9, 1972, the senior author in company with Frederic L. Steele and Edward Flaccus made a leisurely ascent of Sentinel Mountain in Tuftonboro, Carroll County, New Hampshire. At about the middle of the south facing rocky slope in deciduous forest a single specimen was sighted from which one leaf was removed as a voucher. A few yards away one or two other shoots were seen, one having been in flower. Although further search was made no more plants were found that day. This specimen, August 9, 1972. *Hodgdon, Steele and Flaccus* 19632 is also deposited in the herbarium of the University of New Hampshire.

These records of recent years extend the range of *Chimaphila maculata* into Maine and central New Hampshire but there are several other townships in New Hampshire from which specimens are present in the University of New Hampshire Herbarium. These are listed as follows:

ROCKINGHAM CO. North Hampton, May 14, 1969. *A. R. Hodgdon & E. J. Hehre* 18314; Windham, July 30, 1898, *W. S. Harris*, s.n.; HILLSBORO CO. Pelham, Gumpas Pond area, 1950, *J. Straughan*, s.n.; CHESHIRE CO. Marlboro, north side of Clapp Pond, Sept. 20, 1954, *Carl Webber*, s.n.

The Harris Collection from Windham was reported in *Rhodora* (1949). In summary there are authentic records of *Chiamaphila maculata* from York, York Co., Maine, and the following New Hampshire stations: Tuftonboro, Carroll Co., Lee and Durham in Strafford Co., North Hampton and Windham in Rockingham Co., Goffstown and Pelham in Hillsboro Co. and Marlboro in Cheshire Co. There is some evidence also that it grew a few years ago in Sanford in York County, Maine. Also an additional station in Lee was discovered several years ago and during the summer of 1972 it was found again in Windham by Mrs. Clotilde Straus.

We would like to emphasize that care should be exercised to document stations for this rare species without destroying entire shoots, photography being recommended for that purpose.

Without some knowledge of the history of a colony it is impossible to determine whether the plant has arrived recently, or instead, has been in that particular area for a long time. Over a span of several years it should be possible to collect much useful information by repeated or at least annual visits to the same plant or colony, at the same time recording data on the spread or recession of the colony, the size and vigor of plants, the condition of flowering, etc. In this way we may be able to determine whether the species has recently migrated, is becoming extinct locally or is merely persisting. Those who argue for its recent migration to those places where it has recently been found must bear in mind that in northern New England there are few sources of the seeds and that the chance of their being lifted from near the surface of the protected forest floor and effectively transported many miles is highly improbable.

LITERATURE CITED

- HODGDON, A. R. and HERBERT FRIEDLANDER. 1949. *Rhodora* 51: 111.
SEYMOUR, F. L. 1969. *The Flora of New England*, Charles E. Tuttle Co., Rutland, Vt.: 425.

DEPARTMENT OF BOTANY

UNIVERSITY OF NEW HAMPSHIRE, DURHAM 03824

OLD ORCHARD BEACH, MAINE 04064